

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/GB2004/004705

International filing date (day/month/year)
05.11.2004

Priority date (day/month/year)
28.11.2003

International Patent Classification (IPC) or both national classification and IPC
H04N9/31

Applicant
SEOS LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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10/580450

AP9 Rec'd PCT/PTO 23 MAY 2006

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**International application No.
PCT/GB2004/004705

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2-4,6-8
	No: Claims	1,5
Inventive step (IS)	Yes: Claims	
	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations**see separate sheet**

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/GB2004/004705**Re Item V****Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****I. Reference is made to the following documents:****D1: US-A-4 293 202 (KIMURA TSUTOMU ET AL) 6 October 1981****D2: US-A-5 978 142 (BLACKHAM GEOFFREY HOWARD ET AL) 2 November 1999****D3: WO 98/20475 A (LASER POWER CORP) 14 May 1998****II. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 5 is not novel in the sense of Article 33(2) PCT.**

1. The document D1 discloses (col. 2, l. 38 - col. 3, l. 8; fig. 1) a light beam recording device displaying an image on a recording sheet (14), comprising projector means, a first light source (1), a primary modulator (connected to a driver 30) for modulating light from the first light source, a second light source (5), optical means (4) for combining light from the second light source with the modulated light from the primary modulator and an auxiliary modulator (rotary multimirror 8 and galvanometer mirror 11) for modulating the combined light from the second light source and the modulated light from the primary modulator.

Therefore all technical features recited in claim 1 are known in combination from D1, thus rendering claim 1 not novel.

2. The light sources (1) and (5) mentioned in D1 emit light of different wavelengths (col. 2, l. 38-47). The subject-matter of claim 5 is therefore also not novel.

III. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-8 does not involve an inventive step in the sense of Article 33(3) PCT.

1. The document D2 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (abstract, fig. 9) an image display apparatus comprising projector means, a first light source, a primary modulator for modulating light from the

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first light source, and an auxiliary modulator for modulating the modulated light from the primary modulator.

2. The subject-matter of claim 1 therefore differs from this known apparatus in that a second light source and means for combining light from the light sources are introduced, the light from the second light source being modulated by the auxiliary modulator together with the modulated light from the first light source.

The problem to be solved by the present application may therefore be regarded as how to provide a multi-color image display apparatus with the extended contrast range of the device known from D2.

3. The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), because the skilled person would regard it as a normal design possibility to exchange the light source + first modulator combination used in D2 by a conventional three-color light engine, e.g. as disclosed in Document D3 (page 8, l. 9 - page 10, l. 26; fig. 2), comprising three light sources (21, 22, 23), the light of which each being modulated before being combined. The combined light of this light engine, if used in the device of D2 instead of the light source and first modulator, is then being modulated by the auxiliary modulator in order to enhance the contrast range according to the teaching of D2. In this way, light from "a second" light source, which may be any of the three disclosed primary color light sources of D3, is combined with modulated light from "a first" light source and afterwards modulated once again.

Thus, faced with the above problem, the skilled person would arrive directly at the claimed device which therefore cannot be considered inventive. Whether the light from the "second" light source is, before being combined, itself modulated or not, is of no importance, because the wording of claim 1 does not exclude one of these cases.

4. Dependent claims 2-8 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see documents D2 and D3 and the corresponding passages cited in the search report.